



**SUMMARY OF RESPONSES TO COMMENTS RECEIVED
BY THE COLORADO WATER QUALITY CONTROL DIVISION
REGARDING THE CONSENT DECREE AND ASSOCIATED CDPS PERMITS IN
SUNNYSIDE GOLD CORPORATION v.
*COLORADO WATER QUALITY CONTROL DIVISION***

The Water Quality Control Division (WQCD) thanks the individuals and organizations that took the time and effort to read and respond to the Consent Decree (CD) and associated permits in the Sunnyside Gold Corporation (SGC) case. The Division and SGC have spent over a year negotiating this CD, and know how complicated it and its appendices are to read and comprehend. The WQCD received many good and thoughtful comments. Although many comments were supportive, many questions and concerns were raised. The following is a summary of questions and comments received by the WQCD, and its responses to those, organized by paragraph and appendix of the CD. Some comments caused the Division to negotiate changes in the documents. Many comments were on issues that the WQCD examined carefully during its deliberations and negotiations, and an explanation is provided of how the issue is addressed.

A letter of support was received from the United States Environmental Protection Agency, and its individual comments are addressed in a separate document. The Animas River Stakeholders, sent a comment letter "support[ing] this innovative agreement as a step toward preventing further degradation and possible improvement of stream water quality in the basin." The letter stated that "[t]he nature of this agreement is consistent with the process and intent of the goals of the Animas River Stakeholders Group which hopes to improve water quality and aquatic life throughout the Animas watershed." Letters of support were received from groups dedicated to protecting the environment and from mining associations.

Paragraph 3. A commentator questions the consistency of the CD's requirement that the water quality be maintained with the policy of the Colorado Water Quality Act (State Act) to protect, maintain, and improve water quality. The commentator confuses the overriding policy of the Act with the obligations that the federal and state statutes impose on individual dischargers. SGC currently is regulated under CDPS permits that contain the limitations on its discharge that the state has the authority under the law to impose. Under the CD, the water quality in the Animas River will, at a minimum, be maintained near its current level, and may be improved.

Paragraph 4g. A commentator requests that all Mined Land Reclamation Board rules, including those regarding water, be incorporated. These sites are not subject to permits by the Division of Minerals and Geology (DMG), and thus are not subject to those rules. The CD incorporates certain of DMG's reclamation rules because standards for those aspects of the mitigation projects were needed. Water quality is addressed in the CD pursuant to the State Act and its implementing regulations.

Paragraph 6. A commentator questions the use of A-72 as the only reference point. The location at A-72 as the reference point was selected because of the substantial amount of

baseline water quality information that exists for that location. This is the only point in the basin where enough information is available to do a statistical comparison between pre-closure and post-closure water quality. The reference point also needed to be located at a point far enough downstream to capture manifestations of possible seeps and springs as well as of mitigation projects.

A commentor asks the meaning of the sentence: "The Reference Point will not be a permit compliance point." The reference point was selected for the reasons stated in the above paragraph. A point of compliance, defined as "a vertical surface that is located at some specified distance hydrologically downgradient of the activity being monitored for compliance," is a point where an entity is responsible for the discharge under its permit. SGC, for instance, has a point of compliance at its treatment facility discharge, prior to that discharge entering the stream. It is not responsible under its permits for the instream water quality in the Animas River, where various sources contribute. The CD and SGC's discharge permits are separate documents with different enforcement mechanisms. The Reference Point is the point where it will be determined if the CD has been successful. During the duration of the CD, and afterward if it is not successful, SGC will remain responsible for the discharges under its permits.

Paragraph 9a. A commentor questions the function, placement, expected outcomes of, and decision-making regarding the additional hydraulic seals downstream of the property line in the American Tunnel, and what will happen if the property owner doesn't agree to them. The purpose of these seals would be to eliminate flows from the American Tunnel, and they would have to be approved by the Mined Land Reclamation Board. If they are not implemented or are not successful, and discharges from the tunnel continue, a permit for those discharges would be required.

Paragraph 9b. A commentor questions the future CERCLA liability of SGC. The WQCD has no authority over CERCLA liability, and so it is not addressed.

Paragraph 9c. A commentor asks whether Cement Creek flows above the treatment plant approximate those from the American Tunnel. Although in certain times of year, in very low flow conditions, the Cement Creek flows are less, most of the year they are greater than can be treated by the American Tunnel treatment facility. Therefore, Cement Creek water, previously untreated, will add less loading to the system as the mine pool builds toward equilibrium.

Paragraph 10. A commentor states that the amount and timing of the monitoring appears to be insufficient to determine the results of mitigation and mine closure efforts, and that it appears SGC will reap the benefits from other projects undertaken to clean up the basin. The amount of monitoring to be conducted by SGC was negotiated for purposes of the agreement. The WQCD believes that the monitoring which has been committed to in the CD will provide the appropriate level of information to determine the effectiveness of mitigation projects and any impacts associated with mine closure efforts. It is true that the

agreement as written does allow SGC to benefit from water quality improvements resulting from projects conducted by others.

A commentor asks why there is no proposed monitoring for the Eureka Tailings mitigation project. The WQCD determined that instream monitoring at the mouths of the major tributaries in the Upper Animas Basin was the most valuable source of information. Therefore, mitigation sites which drain directly into major tributaries will not be monitored in all cases, especially where the loading from the site is small relative to the loading normally carried by the receiving stream. Mitigation measures will be taken to prevent impacts during the construction phase of these mitigation projects to avoid impacts on aquatic life. These are specifically addressed in the permit for mitigation projects.

Paragraph 13. A commentor questions SGC's discretion whether to do additional remediation projects that will have a positive impact on water quality if completion of the remediation projects on the "A" and "B" lists do not result in a Successful Permit Termination, and the use of the term "positive impact," when the commentor would like a requirement that the water quality improved from its current status. The parties agreed to change the first two sentences of paragraph 13 (page 21) to read as follows:

In the event that the Permit Termination criteria of paragraph 14 below are not met following completion of all the mitigation projects on both the "A" and "B" Lists, within sixty days after the Division notifies SGC of such a determination, SGC will notify the Division whether or not it intends to propose additional remediation projects which are anticipated to have a positive impact on the water quality of the Animas River. If SGC determines that it will propose additional such projects, it will submit proposed Work Plans to the Division within sixty days of the notification or within a reasonable timeframe based on the accessibility of the site for planning and the complexity of the project.

Under this paragraph, the WQCD has approval authority of proposed Work Plans. It should also be noted that if the projects do not result in maintenance of water quality (i.e., a Successful Permit Termination Assessment), SGC will not be released from its obligations under its CDPS permits.

Paragraph 14. A commentor questions that a Permit Termination Assessment can take place five years after the Mine tunnels are sealed. The commentor offers neither an alternative nor basis for the belief that this timeframe is inadequate. The CD is a negotiated settlement within the WQCD's administrative discretion. Although different timeframes could be argued, a timeframe had to be set. Those sorts of arguments could prevent mitigation activities such as those envisioned in this CD from ever occurring.

A commentor states that the ability of SGC to transfer the permit unnecessarily waives SGC's obligations. The commentor misunderstands the CD and the law. Under the

CD, SGC must at a minimum complete all of the "A" list projects. The State entered into the CD with the belief that completion of the "A" list projects would compensate for any increased loading caused by sealing of the American and Terry tunnels. Any transferee of the permit would be under the same permit obligations as is SGC. The WQCD is confused as to the commentor's concern over the entity holding the permit.

The commentor states that a "transfer of the permit should not be able to be construed as limiting the requirement that the flows from the American tunnel are completely eliminated over the long-term." Nowhere in the CD does this "requirement" exist. The CD is clear that if flow from the tunnel remains, a permit will be required (paragraphs 8, 20 and 24).

Paragraph 14g. A commentor asks why it is a requirement of the CD that treatment of Cement Creek cease prior to a successful termination of the permits and CD. The basic principal contained within the CD is that water quality at monitoring station A-72 must be maintained or improved with no continued treatment activities on the part of Sunnyside Gold Corporation. Also, in order for SGC to inactivate its mine/land reclamation permit, the treatment facility located near the portal of the American Tunnel must be removed and the site restored to its pre-mining conditions.

Paragraph 16a. A commentor questions the definition of the term "feasible" as it relates to the feasibility of additional mitigation projects. The WQCD reminds the commentor that if a Successful Permit Termination Assessment is not achieved, SGC will not be released from its permit obligations, but that it will have performed important mitigation work.

Paragraph 18. A commentor questions SGC's commitment to treatment for 2.5 years in the event of a premature termination and asks what then happens to contaminated flow. This thirty-month treatment requirement is for Cement Creek (not American Tunnel discharge), which currently receives no treatment and for which SGC is not legally responsible in the absence of this CD. In this case, SGC will continue to be bound by its CDPS permit for any continued flow from the American Tunnel. The diversion of Cement Creek flows into the treatment plant should capture the seeps and springs most likely to flow after mine closure. The Commentor asks about compliance at the mitigation sites in the event of a premature termination, and about seeps and springs that may develop after tunnel sealing in the event of premature termination. A premature termination is not permitted under the CD unless all projects on the "A" list are complete. This is the list of projects which the WQCD believes will compensate for increased loading that will result from sealing of the tunnels and discontinued treatment. SGC will not be released from its permits by the WQCD in the event of a premature termination, and the Parties will return to their pre-CD litigation positions.

Paragraph 19. A commentor states that if there is a premature termination, the existing discharge permits should not only remain in effect but be renewed. Under the Act

and regulations, this is how it would work.

Paragraph 24. One commentor noted that the basic concept embodied in the CD of allowing SGC to remediate inactive mine sites throughout the Upper Animas Basin in return for terminating its permits for the Terry and American Tunnel discharges after sealing the Sunnyside Mine, is fundamentally flawed, because all of the inactive mine sites in the basin should already have permits which require the mine owners to perform such remediation work. While it is true that point source discharges including storm water occur at historically inactive mines, they are so numerous, scattered and variable, in terms of their water quality impacts and ownership patterns, that the Division has not been capable of pursuing a comprehensive strategy of issuing permits to such mines. Recently, through the development of the watershed approach to water quality management, it has become possible for the Division, in cooperation with the others, to conduct monitoring studies aimed at developing attainable water quality goals and targeting the most significant sources of mine drainage in watershed impacted by past mining activities. Such cooperative monitoring efforts in the Upper Animas Basin over the past 5 years provided the informational base which made this CD possible.

The Division believes that a combination of approaches for addressing the impacts from inactive mines is appropriate and necessary. Each approach to improving water quality, whether it be a cooperative and voluntary effort conducted by remediating agencies, point source permitting by the WQCD, CERCLA cleanups and removal actions, or hybrid approaches such as contained in this CD, depends upon adequate watershed monitoring and assessment to enable limited resources to be well targeted. Watershed scale monitoring makes it possible to establish realistic water quality goals and standards, then to translate the goals into total maximum daily loads (or other specific limitations) so that proper resource allocation decisions can be made. The Division's Permitting strategy will be to address sites which are discharging significant (i.e. non-de minimus) pollutant loadings relative to the TMDL for the basin and where other approaches are not available for controlling the problem.

Paragraph 24b. A commentor asks what BAT standards are. BAT limitations are technology based effluent limitations and standards based on effluent limitations and standards promulgated under Section 301 of the Clear Water Act or new source performance standards promulgated under Section 306 of the Clean Water Act. Some case by case effluent limitations are determined under Section 402 (a)(1) of the Clean Water Act. Specific effluent limitations have been promulgated for mining-related industrial categories including ore mining. The BAT limit for zinc in the ore mining industrial category is .75 milligrams per liter.

Paragraph 25. A commentor asks if the State will be able to track the letter of credit expiration date, notice of alternate letter of credit and the 10-day period so the State can draw a draft of the letter of credit if necessary? The WQCD is currently developing specific procedures which will address this concern.

A commentator asks if the financial assurance will be used to cover all remediation projects. The CD specifies that the financial assurance is to be used for treatment plant operation in the case that SGC files for bankruptcy or becomes bankrupt and discontinues treatment. If SGC does not meet all requirements set forth in the CD, it will not be released from its enforceable permit obligations.

Paragraph 36. A commentator asks if there will be public notice of amendments to the CD. Any amendments to the CD must be approved by Court order, and as such will be public documents. Amendments to the permits will be governed by the Act and regulations, which require amendments to be public noticed. The WQCD envisions that significant amendments to the CD would be public noticed.

Appendix A. A commentator questions zinc as the only parameter used in a Permit Termination Assessment. The WQCD believes that the utilization of zinc provides an accurate comparison of the water quality at the reference point over time and that a whole host of other pollutants will be adequately controlled zinc is controlled.

Appendix B. A commentator questions the Sunnyside Mine pool mitigation project and the amounts of neutralizing agents that will be added to offset the acids which will liberate from dissolved salts. The pH of mine water currently draining from the Sunnyside Mine workings is near neutral. However, there are some acidic fracture zones within the mine workings. While it is true that the alkaline injection into the mine pool is experimental, the Parties agree that it may prove to be very beneficial. Monitoring of seeps and springs is required by DMG pursuant to the Mine Land Reclamation Permit held by SGC. The WQCD will consider supplementing water quality monitoring activities which are currently specified in the CD and in the CDPS permits and DMG permits applicable to SGC.

A commentator asks what criteria will be used to measure the success of mitigation projects. Per paragraphs 4g and 8a of the CD, the mitigation projects must meet section 3.1.5 (materials handling), 3.1.9 (topsoiling), 3.1.10 (revegetation), and 3.1.11 (buildings and structures) of the rules of the Mined Land Reclamation Board, 2 CCR 407-1, as they exist at the time the CD is entered by the Court, and the Work Plans approved by the WQCD included in the Mine Remediation Permit.

A commentator asks why SGC is only evaluating water flows and designing a treatment system rather than completing a water treatment system at the Koehler Longfellow site. Uncertainty about the possibility of terminating an NPDES permit at the site resulted in SGC being unwilling to construct and operate a treatment facility.

A commentator asks why the CD only requires a bulkhead at the Columbus Mine Portal when the permit requires both a bulkhead and mine waste relocation. The CD is in addition to any permits and their requirements. It does not replace those.

A commentator expressed concern about the relative insensitivity of the proposed

monitoring evaluation scheme to detect a change in the zinc concentration in the Animas River below Mineral Creek between the pre- and post-project periods. This comment or recommended that the three flow classes (low, medium and high) be eliminated so that all of the pre- and post-project concentration values could be evaluated as a single data set. This was based on the premise that larger sample size obtained by ignoring flow effects, would have greater power to detect a difference between the pre- and post-project data sets than can be achieved by recognizing flow as a factor and splitting the data into three small subsets. This commentor further noted that while the CD focuses upon the low flow period as being most critical, zinc concentrations are even more toxic at higher flows. Even though the concentrations of zinc at high flows are less than at low flows, they are more toxic. This is because hardness (which mitigates toxicity) decreases as flows increase.

While this recommendation has merit from a statistical (and toxicological) point of view, the parties are unable to accept this recommendation. This comment highlights one of the most difficult and contentious issues the parties encountered during the lengthy negotiations on the proposed CD. The WQCD and SGC differed over the appropriate manner in which to address the flow factor in the monitoring evaluation analysis contained in Appendix A. The parties' disagreement over this issue eventually threatened the possibility of achieving a settlement of the lawsuit. Ultimately, the WQCD agreed to accept SGC's approach for evaluating the post project period utilizing 3 separate flow classes and the parties together identified a statistical approach for evaluating water quality changes during the actual project performance period. The WQCD viewed the benefits of the overall agreement as outweighing the value of greater statistical precision in determining whether a successful termination of the agreement had been accomplished by SGC.

Analysis of the zinc data at the A-72 reference location shows a relationship between zinc concentrations and stream flow. Zinc levels are higher at low flow and lower at high flow. Because the zinc concentration is correlated with stream flow, there was a concern that a change in concentration due to mine closure activities would be partially masked by differences in concentration due to flow. Stated differently, part of the variability in zinc concentration could be due to stream flow, but the variability of interest would be that due to mine closure activities. Accordingly, the WQCD proposed to use a statistical procedure (analysis of variance where the flow factor is blocked or regression analysis) that would remove the effect of flow so that the effects of mine closure on water quality at A-72 would be evaluated. This approach retained all of the zinc/flow observations as a single data set and provide a larger number of samples as recommended by this commentor.

Using this approach, the WQCD felt, based on its analysis of the A-72 data, that a 10 percent shift in the mean zinc concentration at A-72, could reasonably be detected between the pre- and post-project data. Choice of a ten percent difference was based on the fact that it was practical to achieve using the statistical procedures proposed by the WQCD and the WQCD's belief that less than a 10% change in water quality would not be significant.

SGC, on the other hand, proposed that the data set should be broken into three

distinct and separate flow class data sets. They asserted that the three flow classes were distinct populations and that the reference data set is not random. The implication of the SGC approach is that 1) only differences greater than 10 percent between the pre- and post-project data sets can be detected, or 2) a much larger number of samples are required to achieve the same level of precision across all three flow states.

In the ensuing negotiations, SGC agreed to increase the number of post-mine closure water quality samples, and the WQCD suggested incorporating zinc data collected before October 1991 (samples that lacked concurrent flow estimates). These measures increased the sensitivity of the analysis in the low flow condition, but not at the intermediate or high flows. This approach allows the State to detect a change in the mean zinc concentration of about 14 percent at low flow, 23 percent at moderate flows and 21% at high flows. As noted by this commentor, the WQCD assumed the low flow period was most critical. The WQCD focused on the low flow period because an increase in zinc concentration attributable to mine closure activities would be most noticeable at this time when groundwater seepage and mine drainage are the dominant sources of zinc. The WQCD did not consider the differences in toxicity during the three flow periods. Discussions between the parties following receipt of the public comments on the proposed agreement did not yield mutually satisfactory alternative approaches and, therefore, no changes have been made in the pre- and post-project monitoring evaluation procedures set forth in Appendix A.